

TETRA TECH NUS

PHIL-19504

TO: RUSS TURNER **DATE:** SEPTEMBER 26, 2005
FROM: MEGAN N. RITCHIE **COPIES:** FILE
SUBJECT: ORGANIC DATA VALIDATION – VOLATILES AND 1,4-DIOXANE
NAS JRB WILLOW GROVE, PENNSYLVANIA
SDG NO. T4308
SAMPLES: 7/Aqueous/
05-MW01-S 05-MW08-I DUP-03 TB-081805
05-MW01-SI 05-MW08-S RB-081805

OVERVIEW

The sample set for NAS JRB Willow Grove Site 5 – Willow Grove, PA, SDG T4308 consists of five aqueous environmental samples (designated 05-MW- and DUP-) and two field quality control (QC) blanks (designated FB- and TB-). One field duplicate pair (05-MW01-S and DUP-03) was included in this sample set. All samples were analyzed for target compound list (TCL) Volatile Organic Compounds (VOCs) and 1,4-Dioxane except for 05-MW08-S and the trip blank. Sample 05-MW08-S was analyzed for 1,4-Dioxane only. The trip blank was analyzed for VOCs only.

The samples were collected by Tetra Tech NUS on August 18, 2005 and analyzed by Chemtech of Mountainside, New Jersey.

All analyses were conducted using EPA SW-846 Methods 8260 for VOCs and 8270 for 1,4-Dioxane.

SUMMARY

All analytes were successfully analyzed in all samples. The findings offered in this report are based upon a general review of all available data including data completeness, holding times until analysis, GC/MS tuning and calibration data, laboratory and field quality control blank results, system monitoring compound recoveries, matrix spike/matrix spike duplicate results, laboratory control spike/spike duplicate results, internal standards performance, compound identification, and compound quantitation.

MAJOR PROBLEMS

- The initial and continuing calibration for acetone exhibited relative response factors (RRFs) below 0.05. Non-detected results for acetone in the associated samples were qualified as unusable (UR).

MINOR PROBLEMS

- Methylene chloride was detected in the field QC blanks. Associated sample results were within 10 times the maximum blank concentration (action level of 320 ug/L) and were qualified (B) not detected due to blank contamination.

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- The percent relative standard deviation (%RSD) for chloroethane exceeded QC criteria of 30% in the initial calibration. All positive results for this compound in associated samples were qualified as estimated (J).
- The percent difference (%D) for tetrachloroethene exceeded QC criteria of 50% in one continuing calibration. All positive and non-detected results for tetrachloroethene in the associated environmental samples were qualified as estimated (J/UJ).
- Positive results at concentrations less than the Reporting Limits (RLs) were qualified as estimated (J).

NOTES

The %D for bromoform exceeded QC criteria of 25% in a continuing calibration. No qualifications were made because there were no positive results for this compound.

Field duplicate pair 05-MW01-S and DUP-03 exhibited relative percent differences (RPDs) within QC criteria. A comparison of the results is located in Appendix C.

Samples 05-MW01-S and DUP-03 were reanalyzed at 50X dilutions for 1,1,1-trichloroethane, 1,1-dichloroethane, 1,1-dichloroethene, cis-1,2-dichloroethene, tetrachloroethene, and trichloroethene. The concentrations for these compounds exceeded the initial calibration concentration range. The concentrations for these compounds were reported from the diluted analysis.

The 1,4-dioxane data is acceptable as reported by the laboratory.

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EXECUTIVE SUMMARY

Laboratory Performance: Acetone exhibited RRFs below the QC criteria in the initial and continuing calibrations. One compound exceeded initial calibration RSD criteria. Two compounds exceeded continuing calibration %D criteria.

Other Factors Affecting Data Quality: Methylene chloride was detected in the field QC blanks.

The data for these analyses were reviewed with reference to the EPA "Functional Guidelines for Organic Data Review", as amended for use within EPA Region 3 (9/94).

The text of this report has been formatted to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the Functional Guidelines and the Quality Assurance Project Plan (QAPjP)."

Megan N. Ritchie
Megan N. Ritchie
Chemist

Russell Sloboda
Tetra Tech NUS, Inc.
Russell Sloboda
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

Qualified Analytical Results

PROJ_NO: 2192

SDG: T4308 MEDIA: WATER DATA FRACTION: OV

nsample

05-MW01-S

samp_date

8/18/2005

lab_id

T4308-04

qc_type

NM

units

UG/L

Pct_Solids

0.0

DUP_OF:

DUP-03

nsample

05-MW01-S

samp_date

8/18/2005

lab_id

T4308-04

qc_type

NM

units

UG/L

Pct_Solids

0.0

DUP_OF:

DUP-03

nsample

05-MW01-SDL

samp_date

8/18/2005

lab_id

T4308-04DL

qc_type

NM

units

UG/L

Pct_Solids

0.0

DUP_OF:

DUP-03DL

Parameter	Result	Val Qual	Qual Code
1,1,2,2-TETRACHLOROETHANE	0.09	U	
1,1,2-TRICHLOROETHANE	23		
1,1,2-TRICHLOROTRIFLUOROETHANE	0.13	U	
1,2,4-TRICHLOROBENZENE	0.08	U	
1,2-DIBROMO-3-CHLOROPROPANE	0.2	U	
1,2-DIBROMOETHANE	0.12	U	
1,2-DICHLOROBENZENE	1.7		
1,2-DICHLOROETHANE	4.1		
1,2-DICHLOROPROPANE	0.15	U	
1,3-DICHLOROBENZENE	0.1	U	
1,4-DICHLOROBENZENE	7.6		
2-BUTANONE	0.23	U	
2-HEXANONE	0.57	U	
4-METHYL-2-PENTANONE	0.46	U	
ACETONE	1.6	UR	C
BENZENE	8.5		
BROMODICHLOROMETHANE	0.14	U	
BROMOFORM	0.09	U	
BROMOMETHANE	0.18	U	
CARBON DISULFIDE	0.11	U	
CARBON TETRACHLORIDE	0.16	U	
CHLOROBENZENE	0.11	U	
CHLORODIBROMOMETHANE	0.13	U	
CHLOROETHANE	0.63	J	CP
CHLOROFORM	0.33	J	P
CHLOROMETHANE	0.08	U	
CIS-1,3-DICHLOROPROPENE	0.12	U	
CYCLOHEXANE	0.15	U	
DICHLORODIFLUOROMETHANE	0.12	U	
ETHYLBENZENE	0.11	U	
ISOPROPYLBENZENE	0.12	U	
M+P-XYLENES	0.24	U	

Parameter	Result	Val Qual	Qual Code
METHYL ACETATE	0.16	U	
METHYL CYCLOHEXANE	2.3		
METHYL TERT-BUTYL ETHER	0.22	U	
METHYLENE CHLORIDE	1.2	B	B
O-XYLENE	0.13	U	
STYRENE	0.11	U	
TOLUENE	0.11	U	
TOTAL XYLENES	0.37	U	
TRANS-1,2-DICHLOROETHENE	0.89	J	P
TRANS-1,3-DICHLOROPROPENE	0.1	U	
TRICHLOROFUOROMETHANE	0.1	U	
VINYL CHLORIDE	0.09	U	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	930		
1,1-DICHLOROETHANE	480		
1,1-DICHLOROETHENE	180		
CIS-1,2-DICHLOROETHENE	270		
TETRACHLOROETHENE	50	J	P
TRICHLOROETHENE	470		

PROJ_NO: 2192

SDG: T4308 MEDIA: WATER DATA FRACTION: OV

nsample 05-MW01-SI
 samp_date 8/18/2005
 lab_id T4308-05
 qc_type NM
 units UG/L
 Pct_Solids 0.0
 DUP_OF:

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	15		
1,1,2,2-TETRACHLOROETHANE	0.09	U	
1,1,2-TRICHLOROETHANE	0.66	J	P
1,1,2-TRICHLOROTRIFLUOROETHANE	0.13	U	
1,1-DICHLOROETHANE	26		
1,1-DICHLOROETHENE	12		
1,2,4-TRICHLOROBENZENE	0.08	U	
1,2-DIBROMO-3-CHLOROPROPANE	0.2	U	
1,2-DIBROMOETHANE	0.12	U	
1,2-DICHLOROBENZENE	0.08	U	
1,2-DICHLOROETHANE	3.6		
1,2-DICHLOROPROPANE	0.15	U	
1,3-DICHLOROBENZENE	0.1	U	
1,4-DICHLOROBENZENE	0.12	U	
2-BUTANONE	0.23	U	
2-HEXANONE	0.57	U	
4-METHYL-2-PENTANONE	0.46	U	
ACETONE	1.6	UR	C
BENZENE	0.15	U	
BROMODICHLOROMETHANE	0.14	U	
BROMOFORM	0.09	U	
BROMOMETHANE	0.18	U	
CARBON DISULFIDE	0.11	U	
CARBON TETRACHLORIDE	0.16	U	
CHLOROBENZENE	0.11	U	
CHLORODIBROMOMETHANE	0.13	U	
CHLOROETHANE	0.46	U	
CHLOROFORM	0.16	U	
CHLOROMETHANE	0.08	U	
CIS-1,2-DICHLOROETHENE	5.5		
CIS-1,3-DICHLOROPROPENE	0.12	U	
CYCLOHEXANE	0.15	U	

nsample 05-MW01-SI
 samp_date 8/18/2005
 lab_id T4308-05
 qc_type NM
 units UG/L
 Pct_Solids 0.0
 DUP_OF:

Parameter	Result	Val Qual	Qual Code
DICHLORODIFLUOROMETHANE	0.12	U	
ETHYLBENZENE	0.11	U	
ISOPROPYLBENZENE	0.12	U	
M+P-XYLENES	0.24	U	
METHYL ACETATE	0.16	U	
METHYL CYCLOHEXANE	0.14	U	
METHYL TERT-BUTYL ETHER	0.22	U	
METHYLENE CHLORIDE	0.42	U	
O-XYLENE	0.13	U	
STYRENE	0.11	U	
TETRACHLOROETHENE	2.5		
TOLUENE	0.11	U	
TOTAL XYLENES	0.37	U	
TRANS-1,2-DICHLOROETHENE	0.1	U	
TRANS-1,3-DICHLOROPROPENE	0.1	U	
TRICHLOROETHENE	10		
TRICHLOROFUOROMETHANE	0.1	U	
VINYL CHLORIDE	0.09	U	

nsample 05-MW08-I
 samp_date 8/18/2005
 lab_id T4308-03
 qc_type NM
 units UG/L
 Pct_Solids 0.0
 DUP_OF:

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.16	U	
1,1,2,2-TETRACHLOROETHANE	0.09	U	
1,1,2-TRICHLOROETHANE	0.11	U	
1,1,2-TRICHLOROTRIFLUOROETHANE	0.13	U	
1,1-DICHLOROETHANE	0.17	U	
1,1-DICHLOROETHENE	0.19	U	
1,2,4-TRICHLOROBENZENE	0.08	U	
1,2-DIBROMO-3-CHLOROPROPANE	0.2	U	
1,2-DIBROMOETHANE	0.12	U	
1,2-DICHLOROBENZENE	0.08	U	
1,2-DICHLOROETHANE	0.13	U	
1,2-DICHLOROPROPANE	0.15	U	
1,3-DICHLOROBENZENE	0.1	U	
1,4-DICHLOROBENZENE	0.12	U	
2-BUTANONE	0.23	U	
2-HEXANONE	0.57	U	
4-METHYL-2-PENTANONE	0.46	U	
ACETONE	1.6	R	C
BENZENE	0.15	U	
BROMODICHLOROMETHANE	0.14	U	
BROMOFORM	0.09	U	
BROMOMETHANE	0.18	U	
CARBON DISULFIDE	0.11	U	
CARBON TETRACHLORIDE	0.16	U	
CHLOROBENZENE	0.11	U	
CHLORODIBROMOMETHANE	0.13	U	
CHLOROETHANE	0.46	U	
CHLOROFORM	0.16	U	
CHLOROMETHANE	0.08	U	
CIS-1,2-DICHLOROETHENE	0.09	U	
CIS-1,3-DICHLOROPROPENE	0.12	U	
CYCLOHEXANE	0.15	U	

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SDG: T4308 MEDIA: WATER DATA FRACTION: OV

nsample 05-MW08-I
 samp_date 8/18/2005
 lab_id T4308-03
 qc_type NM
 units UG/L
 Pct_Solids 0.0
 DUP_OF:

Parameter	Result	Val Qual	Qual Code
DICHLORODIFLUOROMETHANE	0.12	U	
ETHYLBENZENE	0.11	U	
ISOPROPYLBENZENE	0.12	U	
M+P-XYLENES	0.24	U	
METHYL ACETATE	0.16	U	
METHYL CYCLOHEXANE	0.14	U	
METHYL TERT-BUTYL ETHER	0.22	U	
METHYLENE CHLORIDE	0.42	U	
O-XYLENE	0.13	U	
STYRENE	0.11	U	
TETRACHLOROETHENE	0.12	UJ	C
TOLUENE	0.11	U	
TOTAL XYLENES	0.37	U	
TRANS-1,2-DICHLOROETHENE	0.1	U	
TRANS-1,3-DICHLOROPROPENE	0.1	U	
TRICHLOROETHENE	0.12	U	
TRICHLORODIFLUOROMETHANE	0.1	U	
VINYL CHLORIDE	0.09	U	

nsample DUP-03
 samp_date 8/18/2005
 lab_id T4308-06
 qc_type NM
 units UG/L
 Pct_Solids 0.0
 DUP_OF: 05-MW01-S

Parameter	Result	Val Qual	Qual Code
1,1,2,2-TETRACHLOROETHANE	0.09	U	
1,1,2-TRICHLOROETHANE	22		
1,1,2-TRICHLOROTRIFLUOROETHANE	0.13	U	
1,2,4-TRICHLOROBENZENE	0.08	U	
1,2-DIBROMO-3-CHLOROPROPANE	0.2	U	
1,2-DIBROMOETHANE	0.12	U	
1,2-DICHLOROBENZENE	1.8		
1,2-DICHLOROETHANE	4.1		
1,2-DICHLOROPROPANE	0.15	U	
1,3-DICHLOROBENZENE	0.1	U	
1,4-DICHLOROBENZENE	8.2		
2-BUTANONE	0.23	U	
2-HEXANONE	0.57	U	
4-METHYL-2-PENTANONE	0.46	U	
ACETONE	1.6	UR	C
BENZENE	8.8		
BROMODICHLOROMETHANE	0.14	U	
BROMOFORM	0.09	U	
BROMOMETHANE	0.18	U	
CARBON DISULFIDE	0.11	U	
CARBON TETRACHLORIDE	0.16	U	
CHLOROBENZENE	0.11	U	
CHLORODIBROMOMETHANE	0.13	U	
CHLOROETHANE	0.62	J	CP
CHLOROFORM	0.33	J	P
CHLOROMETHANE	0.08	U	
CIS-1,3-DICHLOROPROPENE	0.12	U	
CYCLOHEXANE	0.15	U	
DICHLORODIFLUOROMETHANE	0.12	U	
ETHYLBENZENE	0.11	U	
ISOPROPYLBENZENE	0.12	U	
M+P-XYLENES	0.24	U	

nsample DUP-03
 samp_date 8/18/2005
 lab_id T4308-06
 qc_type NM
 units UG/L
 Pct_Solids 0.0
 DUP_OF: 05-MW01-S

Parameter	Result	Val Qual	Qual Code
METHYL ACETATE	0.16	U	
METHYL CYCLOHEXANE	2		
METHYL TERT-BUTYL ETHER	0.22	U	
METHYLENE CHLORIDE	1.1	B	B
O-XYLENE	0.13	U	
STYRENE	0.11	U	
TOLUENE	0.11	U	
TOTAL XYLENES	0.37	U	
TRANS-1,2-DICHLOROETHENE	0.93	J	P
TRANS-1,3-DICHLOROPROPENE	0.1	U	
TRICHLOROFUOROMETHANE	0.1	U	
VINYL CHLORIDE	0.09	U	

PROJ_NO: 2192

SDG: T4308 MEDIA: WATER DATA FRACTION: OV

nsample DUP-03DL
samp_date 8/18/2005
lab_id T4308-06DL
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF: 05-MW01-SDL

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	960		
1,1-DICHLOROETHANE	500		
1,1-DICHLOROETHENE	190		
CIS-1,2-DICHLOROETHENE	270		
TETRACHLOROETHENE	49	J	P
TRICHLOROETHENE	490		

nsample RB-081805
samp_date 8/18/2005
lab_id T4308-07
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.16	U	
1,1,2,2-TETRACHLOROETHANE	0.09	U	
1,1,2-TRICHLOROETHANE	0.11	U	
1,1,2-TRICHLOROTRIFLUOROETHANE	0.13	U	
1,1-DICHLOROETHANE	0.17	U	
1,1-DICHLOROETHENE	0.19	U	
1,2,4-TRICHLOROBENZENE	0.08	U	
1,2-DIBROMO-3-CHLOROPROPANE	0.2	U	
1,2-DIBROMOETHANE	0.12	U	
1,2-DICHLOROBENZENE	0.08	U	
1,2-DICHLOROETHANE	0.13	U	
1,2-DICHLOROPROPANE	0.15	U	
1,3-DICHLOROBENZENE	0.1	U	
1,4-DICHLOROBENZENE	0.12	U	
2-BUTANONE	0.23	U	
2-HEXANONE	0.57	U	
4-METHYL-2-PENTANONE	0.46	U	
ACETONE	1.6	UR	C
BENZENE	0.15	U	
BROMODICHLOROMETHANE	0.14	U	
BROMOFORM	0.09	U	
BROMOMETHANE	0.18	U	
CARBON DISULFIDE	0.11	U	
CARBON TETRACHLORIDE	0.16	U	
CHLOROBENZENE	0.11	U	
CHLORODIBROMOMETHANE	0.13	U	
CHLOROETHANE	0.46	U	
CHLOROFORM	0.16	U	
CHLORMETHANE	0.08	U	
CIS-1,2-DICHLOROETHENE	0.09	U	
CIS-1,3-DICHLOROPROPENE	0.12	U	
CYCLOHEXANE	0.15	U	

nsample RB-081805
samp_date 8/18/2005
lab_id T4308-07
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

Parameter	Result	Val Qual	Qual Code
DICHLORODIFLUOROMETHANE	0.12	U	
ETHYLBENZENE	0.11	U	
ISOPROPYLBENZENE	0.12	U	
M+P-XYLENES	0.24	U	
METHYL ACETATE	0.16	U	
METHYL CYCLOHEXANE	0.14	U	
METHYL TERT-BUTYL ETHER	0.22	U	
METHYLENE CHLORIDE	32		
O-XYLENE	0.13	U	
STYRENE	0.11	U	
TETRACHLOROETHENE	0.12	U	
TOLUENE	0.11	U	
TOTAL XYLENES	0.37	U	
TRANS-1,2-DICHLOROETHENE	0.1	U	
TRANS-1,3-DICHLOROPROPENE	0.1	U	
TRICHLOROETHENE	0.12	U	
TRICHLOROFUOROMETHANE	0.1	U	
VINYL CHLORIDE	0.09	U	

PROJ_NO: 2192

SDG: T4308 MEDIA: WATER DATA FRACTION: OV

nsample TB-081805
samp_date 8/18/2005
lab_id T4308-01
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

nsample TB-081805
samp_date 8/18/2005
lab_id T4308-01
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.16	U	
1,1,2,2-TETRACHLOROETHANE	0.09	U	
1,1,2-TRICHLOROETHANE	0.11	U	
1,1,2-TRICHLOROTRIFLUOROETHANE	0.13	U	
1,1-DICHLOROETHANE	0.17	U	
1,1-DICHLOROETHENE	0.19	U	
1,2,4-TRICHLOROBENZENE	0.08	U	
1,2-DIBROMO-3-CHLOROPROPANE	0.2	U	
1,2-DIBROMOETHANE	0.12	U	
1,2-DICHLOROBENZENE	0.08	U	
1,2-DICHLOROETHANE	0.13	U	
1,2-DICHLOROPROPANE	0.15	U	
1,3-DICHLOROBENZENE	0.1	U	
1,4-DICHLOROBENZENE	0.12	U	
2-BUTANONE	0.23	U	
2-HEXANONE	0.57	U	
4-METHYL-2-PENTANONE	0.46	U	
ACETONE	1.6	UR	C
BENZENE	0.15	U	
BROMODICHLOROMETHANE	0.14	U	
BROMOFORM	0.09	U	
BROMOMETHANE	0.18	U	
CARBON DISULFIDE	0.11	U	
CARBON TETRACHLORIDE	0.16	U	
CHLOROBENZENE	0.11	U	
CHLORODIBROMOMETHANE	0.13	U	
CHLOROETHANE	0.46	U	
CHLOROFORM	0.16	U	
CHLOROMETHANE	0.08	U	
CIS-1,2-DICHLOROETHENE	0.09	U	
CIS-1,3-DICHLOROPROPENE	0.12	U	
CYCLOHEXANE	0.15	U	

Parameter	Result	Val Qual	Qual Code
DICHLORODIFLUOROMETHANE	0.12	U	
ETHYLBENZENE	0.11	U	
ISOPROPYLBENZENE	0.12	U	
M+P-XYLENES	0.24	U	
METHYL ACETATE	0.16	U	
METHYL CYCLOHEXANE	0.14	U	
METHYL TERT-BUTYL ETHER	0.22	U	
METHYLENE CHLORIDE	3.5		
O-XYLENE	0.13	U	
STYRENE	0.11	U	
TETRACHLOROETHENE	0.12	UJ	C
TOLUENE	0.11	U	
TOTAL XYLENES	0.37	U	
TRANS-1,2-DICHLOROETHENE	0.1	U	
TRANS-1,3-DICHLOROPROPENE	0.1	U	
TRICHLOROETHENE	0.12	U	
TRICHLORODIFLUOROMETHANE	0.1	U	
VINYL CHLORIDE	0.09	U	

PROJ_NO: 2192

SDG: T4308 MEDIA: WATER DATA FRACTION: OS

nsample 05-MW01-S
samp_date 8/18/2005
lab_id T4308-04
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF: DUP-03

nsample 05-MW01-SI
samp_date 8/18/2005
lab_id T4308-05
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

nsample 05-MW08-I
samp_date 8/18/2005
lab_id T4308-03
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

Parameter	Result	Val Qual	Qual Code
1,4-DIOXANE	13		

Parameter	Result	Val Qual	Qual Code
1,4-DIOXANE	2.1	U	

Parameter	Result	Val Qual	Qual Code
1,4-DIOXANE	2.1	U	

PROJ_NO: 2192

SDG: T4308 MEDIA: WATER DATA FRACTION: OS

nsample 05-MW08-S
samp_date 8/18/2005
lab_id T4308-02
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

nsample DUP-03
samp_date 8/18/2005
lab_id T4308-06
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF: 05-MW01-S

nsample RB-081805
samp_date 8/18/2005
lab_id T4308-07
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

Parameter	Result	Val Qual	Qual Code
1,4-DIOXANE	2.1	U	

Parameter	Result	Val Qual	Qual Code
1,4-DIOXANE	12		

Parameter	Result	Val Qual	Qual Code
1,4-DIOXANE	2.1	U	

Qualifier Codes:

- a = Lab Blank Contamination
- b = Field Blank Contamination
- c = Calibration (i.e., %RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
- d = MS/MSD Noncompliance
- e = LSC/LSCD Noncompliance
- f = Laboratory Duplicate Imprecision
- g = Field Duplicate Imprecision
- h = Holding Time Exceedance
- i = ICP Serial Dilution Noncompliance
- j = GFAA PDS – GFAA MSA's $r < 0.995$ (correlation coefficient)
- k = ICP Interference – include ICSAB %Rs
- l = Instrument Calibration Range Exceedance
- m = Sample Preservation
- n = Internal Standard Noncompliance
- o = Poor Instrument Performance (i.e. baseline drifting)
- p = Uncertainty Near Detection Limit ($< 2 \times IDL$ for inorganics and $< CRQL$ for organics)
- q = Other Problems (can encompass of number of issues)
- r = Surrogates Recovery Noncompliance
- s = Pesticide/PCB Resolution
- t = % Breakdown Noncompliance for DDT and Endrin
- u = Pesticide/PCB % Difference Between Columns for Positive Results
- v = Non-linear Calibrations, Tuning $r < 0.995$ (correlation coefficient)

Data Qualifier Key:

- B - Positive result is considered to be an artifact of blank contamination and should not be considered present.
- J - Value is considered estimated due to exceedance of technical quality control or because result is less than the Contract Required Quantitation Limit (CRQL).
- L - Positive result is considered biased low due to exceedance of technical quality control criteria.
- R - Positive result is considered unusable due to exceedance of technical quality control criteria.
- U - Value is a non-detected result as reported by the laboratory.
- UJ - Non-detected result is considered estimated due to exceedance of technical quality control criteria.
- UL - Non-detected result is considered biased low due to exceedance of technical quality control criteria.

APPENDIX B

Results as Reported by the Laboratory

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/18/05
Project:	NAS JRB Willow Grove	Date Received:	8/19/05
Client Sample ID:	05-MW01-S	SDG No.:	T4308
Lab Sample ID:	T4308-04	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VF082812.D	1	8/29/05	VF082005

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.12	U	1.0	0.12	ug/L
74-87-3	Chloromethane	0.08	U	1.0	0.08	ug/L
75-01-4	Vinyl chloride	0.09	U	1.0	0.09	ug/L
74-83-9	Bromomethane	0.18	U	1.0	0.18	ug/L
75-00-3	Chloroethane	0.63	J	1.0	0.46	ug/L
75-69-4	Trichlorofluoromethane	0.10	U	1.0	0.10	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.13	U	1.0	0.13	ug/L
75-35-4	1,1-Dichloroethene	160	E	1.0	0.19	ug/L
67-64-1	Acetone	1.6	U	5.0	1.6	ug/L
75-15-0	Carbon disulfide	0.11	U	1.0	0.11	ug/L
1634-04-4	Methyl tert-butyl Ether	0.22	U	1.0	0.22	ug/L
79-20-9	Methyl Acetate	0.16	U	1.0	0.16	ug/L
75-09-2	Methylene Chloride	1.2		1.0	0.42	ug/L
156-60-5	trans-1,2-Dichloroethene	0.89	J	1.0	0.10	ug/L
75-34-3	1,1-Dichloroethane	160	E	1.0	0.17	ug/L
110-82-7	Cyclohexane	0.15	U	1.0	0.15	ug/L
78-93-3	2-Butanone	0.23	U	5.0	0.23	ug/L
56-23-5	Carbon Tetrachloride	0.16	U	1.0	0.16	ug/L
156-59-2	cis-1,2-Dichloroethene	250	E	1.0	0.09	ug/L
67-66-3	Chloroform	0.33	J	1.0	0.16	ug/L
71-55-6	1,1,1-Trichloroethane	170	E	1.0	0.16	ug/L
108-87-2	Methylcyclohexane	2.3		1.0	0.14	ug/L
71-43-2	Benzene	8.5		1.0	0.15	ug/L
107-06-2	1,2-Dichloroethane	4.1		1.0	0.13	ug/L
79-01-6	Trichloroethene	330	E	1.0	0.12	ug/L
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15	ug/L
75-27-4	Bromodichloromethane	0.14	U	1.0	0.14	ug/L
108-10-1	4-Methyl-2-Pentanone	0.46	U	5.0	0.46	ug/L
108-88-3	Toluene	0.11	U	1.0	0.11	ug/L
10061-02-6	t-1,3-Dichloropropene	0.10	U	1.0	0.10	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.12	U	1.0	0.12	ug/L
79-00-5	1,1,2-Trichloroethane	23		1.0	0.11	ug/L

U = Not Detected

J = Estimated Value

RL = Reporting Limit

B = Analyte Found in Associated Method Blank

MDL = Method Detection Limit

N = Presumptive Evidence of a Compound

E = Value Exceeds Calibration Range

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/18/05
Project:	NAS JRB Willow Grove	Date Received:	8/19/05
Client Sample ID:	05-MW01-S	SDG No.:	T4308
Lab Sample ID:	T4308-04	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VF082812.D	1	8/29/05	VF082005

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	0.57	U	5.0	0.57	ug/L
124-48-1	Dibromochloromethane	0.13	U	1.0	0.13	ug/L
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12	ug/L
127-18-4	Tetrachloroethene	41	E	1.0	0.12	ug/L
108-90-7	Chlorobenzene	0.11	U	1.0	0.11	ug/L
100-41-4	Ethyl Benzene	0.11	U	1.0	0.11	ug/L
126777-61-2	m&p-Xylenes	0.24	U	1.0	0.24	ug/L
95-47-6	o-Xylene	0.13	U	1.0	0.13	ug/L
100-42-5	Styrene	0.11	U	1.0	0.11	ug/L
75-25-2	Bromoform	0.09	U	1.0	0.09	ug/L
98-82-8	Isopropylbenzene	0.12	U	1.0	0.12	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.09	U	1.0	0.09	ug/L
541-73-1	1,3-Dichlorobenzene	0.10	U	1.0	0.10	ug/L
106-46-7	1,4-Dichlorobenzene	7.6		1.0	0.12	ug/L
95-50-1	1,2-Dichlorobenzene	1.7		1.0	0.08	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.20	U	1.0	0.20	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.08	U	1.0	0.08	ug/L
1330-20-7	Total Xylenes	0.37	U	2.0	0.37	ug/L

SURROGATES

17060-07-0	1,2-Dichloroethane-d4	10.82	108 %	72 - 119	SPK: 10
1868-53-7	Dibromofluoromethane	9.16	92 %	85 - 115	SPK: 10
2037-26-5	Toluene-d8	9.53	95 %	81 - 120	SPK: 10
460-00-4	4-Bromofluorobenzene	10.62	106 %	76 - 119	SPK: 10

INTERNAL STANDARDS

363-72-4	Pentafluorobenzene	1948333	7.93
540-36-3	1,4-Difluorobenzene	3009736	9.25
3114-55-4	Chlorobenzene-d5	2532482	15.19
3855-82-1	1,4-Dichlorobenzene-d4	1325887	20.55

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N = Presumptive Evidence of a Compound

E = Value Exceeds Calibration Range

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/18/05
Project:	NAS JRB Willow Grove	Date Received:	8/19/05
Client Sample ID:	05-MW01-SDL	SDG No.:	T4308
Lab Sample ID:	T4308-04DL	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	.100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VF082914.D	50	8/29/05	VF082005

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	6.2	UD	50	6.2	ug/L
74-87-3	Chloromethane	4.0	UD	50	4.0	ug/L
75-01-4	Vinyl chloride	4.2	UD	50	4.2	ug/L
74-83-9	Bromomethane	8.8	UD	50	8.8	ug/L
75-00-3	Chloroethane	23	UD	50	23	ug/L
75-69-4	Trichlorofluoromethane	5.2	UD	50	5.2	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	6.4	UD	50	6.4	ug/L
75-35-4	1,1-Dichloroethene	180	D	50	9.4	ug/L
67-64-1	Acetone	79	UD	250	79	ug/L
75-15-0	Carbon disulfide	5.5	UD	50	5.5	ug/L
1634-04-4	Methyl tert-butyl Ether	11	UD	50	11	ug/L
79-20-9	Methyl Acetate	8.0	UD	50	8.0	ug/L
75-09-2	Methylene Chloride	21	UD	50	21	ug/L
156-60-5	trans-1,2-Dichloroethene	5.0	UD	50	5.0	ug/L
75-34-3	1,1-Dichloroethane	480	D	50	8.4	ug/L
110-82-7	Cyclohexane	7.3	UD	50	7.3	ug/L
78-93-3	2-Butanone	12	UD	250	12	ug/L
56-23-5	Carbon Tetrachloride	7.8	UD	50	7.8	ug/L
156-59-2	cis-1,2-Dichloroethene	270	D	50	4.6	ug/L
67-66-3	Chloroform	8.0	UD	50	8.0	ug/L
71-55-6	1,1,1-Trichloroethane	930	D	50	8.1	ug/L
108-87-2	Methylcyclohexane	6.8	UD	50	6.8	ug/L
71-43-2	Benzene	7.4	UD	50	7.4	ug/L
107-06-2	1,2-Dichloroethane	6.4	UD	50	6.4	ug/L
79-01-6	Trichloroethene	470	D	50	5.8	ug/L
78-87-5	1,2-Dichloropropane	7.6	UD	50	7.6	ug/L
75-27-4	Bromodichloromethane	6.8	UD	50	6.8	ug/L
108-10-1	4-Methyl-2-Pentanone	23	UD	250	23	ug/L
108-88-3	Toluene	5.4	UD	50	5.4	ug/L
10061-02-6	t-1,3-Dichloropropene	4.8	UD	50	4.8	ug/L
10061-01-5	cis-1,3-Dichloropropene	6.0	UD	50	6.0	ug/L
79-00-5	1,1,2-Trichloroethane	22	JD	50	5.6	ug/L

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B = Analyte Found in Associated Method Blank

MDL = Method Detection Limit

N = Presumptive Evidence of a Compound

E = Value Exceeds Calibration Range

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/18/05
Project:	NAS JRB Willow Grove	Date Received:	8/19/05
Client Sample ID:	05-MW01-SDL	SDG No.:	T4308
Lab Sample ID:	T4308-04DL	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VF082914.D	50	8/29/05	VF082005

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	29	UD	250	29	ug/L
124-48-1	Dibromochloromethane	6.5	UD	50	6.5	ug/L
106-93-4	1,2-Dibromoethane	6.0	UD	50	6.0	ug/L
127-18-4	Tetrachloroethene	50	JD	50	6.1	ug/L
108-90-7	Chlorobenzene	5.5	UD	50	5.5	ug/L
100-41-4	Ethyl Benzene	5.7	UD	50	5.7	ug/L
126777-61-2	m&p-Xylenes	12	UD	50	12	ug/L
95-47-6	o-Xylene	6.5	UD	50	6.5	ug/L
100-42-5	Styrene	5.6	UD	50	5.6	ug/L
75-25-2	Bromoform	4.7	UD	50	4.7	ug/L
98-82-8	Isopropylbenzene	6.1	UD	50	6.1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	4.6	UD	50	4.6	ug/L
541-73-1	1,3-Dichlorobenzene	4.8	UD	50	4.8	ug/L
106-46-7	1,4-Dichlorobenzene	6.2	UD	50	6.2	ug/L
95-50-1	1,2-Dichlorobenzene	4.2	UD	50	4.2	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	10	UD	50	10	ug/L
120-82-1	1,2,4-Trichlorobenzene	4.2	UD	50	4.2	ug/L
1330-20-7	Total Xylenes	18.5	UD	100	18.5	ug/L

SURROGATES

17060-07-0	1,2-Dichloroethane-d4	8.24	82 %	72 - 119	SPK: 10
1868-53-7	Dibromofluoromethane	8.65	86 %	85 - 115	SPK: 10
2037-26-5	Toluene-d8	8.8	88 %	81 - 120	SPK: 10
460-00-4	4-Bromofluorobenzene	8.69	87 %	76 - 119	SPK: 10

INTERNAL STANDARDS

363-72-4	Pentafluorobenzene	2936414	7.92
540-36-3	1,4-Difluorobenzene	4363978	9.25
3114-55-4	Chlorobenzene-d5	3417281	15.20
3855-82-1	1,4-Dichlorobenzene-d4	1740518	20.56

U = Not Detected

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RL = Reporting Limit

B = Analyte Found in Associated Method Blank

MDL = Method Detection Limit

N = Presumptive Evidence of a Compound

E = Value Exceeds Calibration Range

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/18/05
Project:	NAS JRB Willow Grove	Date Received:	8/19/05
Client Sample ID:	05-MW01-SI	SDG No.:	T4308
Lab Sample ID:	T4308-05	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VF082908.D	1	8/29/05	VF082005

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.12	U	1.0	0.12	ug/L
74-87-3	Chloromethane	0.08	U	1.0	0.08	ug/L
75-01-4	Vinyl chloride	0.09	U	1.0	0.09	ug/L
74-83-9	Bromomethane	0.18	U	1.0	0.18	ug/L
75-00-3	Chloroethane	0.46	U	1.0	0.46	ug/L
75-69-4	Trichlorofluoromethane	0.10	U	1.0	0.10	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.13	U	1.0	0.13	ug/L
75-35-4	1,1-Dichloroethene	12		1.0	0.19	ug/L
67-64-1	Acetone	1.6	U	5.0	1.6	ug/L
75-15-0	Carbon disulfide	0.11	U	1.0	0.11	ug/L
1634-04-4	Methyl tert-butyl Ether	0.22	U	1.0	0.22	ug/L
79-20-9	Methyl Acetate	0.16	U	1.0	0.16	ug/L
75-09-2	Methylene Chloride	0.42	U	1.0	0.42	ug/L
156-60-5	trans-1,2-Dichloroethene	0.10	U	1.0	0.10	ug/L
75-34-3	1,1-Dichloroethane	26		1.0	0.17	ug/L
110-82-7	Cyclohexane	0.15	U	1.0	0.15	ug/L
78-93-3	2-Butanone	0.23	U	5.0	0.23	ug/L
56-23-5	Carbon Tetrachloride	0.16	U	1.0	0.16	ug/L
156-59-2	cis-1,2-Dichloroethene	5.5		1.0	0.09	ug/L
67-66-3	Chloroform	0.16	U	1.0	0.16	ug/L
71-55-6	1,1,1-Trichloroethane	15		1.0	0.16	ug/L
108-87-2	Methylcyclohexane	0.14	U	1.0	0.14	ug/L
71-43-2	Benzene	0.15	U	1.0	0.15	ug/L
107-06-2	1,2-Dichloroethane	3.6		1.0	0.13	ug/L
79-01-6	Trichloroethene	10		1.0	0.12	ug/L
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15	ug/L
75-27-4	Bromodichloromethane	0.14	U	1.0	0.14	ug/L
108-10-1	4-Methyl-2-Pentanone	0.46	U	5.0	0.46	ug/L
108-88-3	Toluene	0.11	U	1.0	0.11	ug/L
10061-02-6	t-1,3-Dichloropropene	0.10	U	1.0	0.10	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.12	U	1.0	0.12	ug/L
79-00-5	1,1,2-Trichloroethane	0.66	J	1.0	0.11	ug/L

U = Not Detected

J = Estimated Value

RL = Reporting Limit

B = Analyte Found in Associated Method Blank

MDL = Method Detection Limit

N = Presumptive Evidence of a Compound

E = Value Exceeds Calibration Range

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/18/05
Project:	NAS JRB Willow Grove	Date Received:	8/19/05
Client Sample ID:	05-MW01-SI	SDG No.:	T4308
Lab Sample ID:	T4308-05	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VF082908.D	1	8/29/05	VF082005

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	0.57	U	5.0	0.57	ug/L
124-48-1	Dibromochloromethane	0.13	U	1.0	0.13	ug/L
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12	ug/L
127-18-4	Tetrachloroethene	2.5		1.0	0.12	ug/L
108-90-7	Chlorobenzene	0.11	U	1.0	0.11	ug/L
100-41-4	Ethyl Benzene	0.11	U	1.0	0.11	ug/L
126777-61-2	m&p-Xylenes	0.24	U	1.0	0.24	ug/L
95-47-6	o-Xylene	0.13	U	1.0	0.13	ug/L
100-42-5	Styrene	0.11	U	1.0	0.11	ug/L
75-25-2	Bromoform	0.09	U	1.0	0.09	ug/L
98-82-8	Isopropylbenzene	0.12	U	1.0	0.12	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.09	U	1.0	0.09	ug/L
541-73-1	1,3-Dichlorobenzene	0.10	U	1.0	0.10	ug/L
106-46-7	1,4-Dichlorobenzene	0.12	U	1.0	0.12	ug/L
95-50-1	1,2-Dichlorobenzene	0.08	U	1.0	0.08	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.20	U	1.0	0.20	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.08	U	1.0	0.08	ug/L
1330-20-7	Total Xylenes	0.37	U	2.0	0.37	ug/L

SURROGATES

17060-07-0	1,2-Dichloroethane-d4	9.49	95 %	72 - 119	SPK: 10
1868-53-7	Dibromofluoromethane	9.36	94 %	85 - 115	SPK: 10
2037-26-5	Toluene-d8	9.27	93 %	81 - 120	SPK: 10
460-00-4	4-Bromofluorobenzene	9.86	99 %	76 - 119	SPK: 10

INTERNAL STANDARDS

363-72-4	Pentafluorobenzene	2714061	7.93
540-36-3	1,4-Difluorobenzene	4005484	9.25
3114-55-4	Chlorobenzene-d5	3358811	15.20
3855-82-1	1,4-Dichlorobenzene-d4	1723188	20.55

U = Not Detected

J = Estimated Value

RL = Reporting Limit

B = Analyte Found in Associated Method Blank

MDL = Method Detection Limit

N = Presumptive Evidence of a Compound

E = Value Exceeds Calibration Range

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/18/05
Project:	NAS JRB Willow Grove	Date Received:	8/19/05
Client Sample ID:	05-MW08-I	SDG No.:	T4308
Lab Sample ID:	T4308-03	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VF082811.D	1	8/29/05	VF082005

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.12	U	1.0	0.12	ug/L
74-87-3	Chloromethane	0.08	U	1.0	0.08	ug/L
75-01-4	Vinyl chloride	0.09	U	1.0	0.09	ug/L
74-83-9	Bromomethane	0.18	U	1.0	0.18	ug/L
75-00-3	Chloroethane	0.46	U	1.0	0.46	ug/L
75-69-4	Trichlorofluoromethane	0.10	U	1.0	0.10	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.13	U	1.0	0.13	ug/L
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19	ug/L
67-64-1	Acetone	1.6	U	5.0	1.6	ug/L
75-15-0	Carbon disulfide	0.11	U	1.0	0.11	ug/L
1634-04-4	Methyl tert-butyl Ether	0.22	U	1.0	0.22	ug/L
79-20-9	Methyl Acetate	0.16	U	1.0	0.16	ug/L
75-09-2	Methylene Chloride	0.42	U	1.0	0.42	ug/L
156-60-5	trans-1,2-Dichloroethene	0.10	U	1.0	0.10	ug/L
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17	ug/L
110-82-7	Cyclohexane	0.15	U	1.0	0.15	ug/L
78-93-3	2-Butanone	0.23	U	5.0	0.23	ug/L
56-23-5	Carbon Tetrachloride	0.16	U	1.0	0.16	ug/L
156-59-2	cis-1,2-Dichloroethene	0.09	U	1.0	0.09	ug/L
67-66-3	Chloroform	0.16	U	1.0	0.16	ug/L
71-55-6	1,1,1-Trichloroethane	0.16	U	1.0	0.16	ug/L
108-87-2	Methylcyclohexane	0.14	U	1.0	0.14	ug/L
71-43-2	Benzene	0.15	U	1.0	0.15	ug/L
107-06-2	1,2-Dichloroethane	0.13	U	1.0	0.13	ug/L
79-01-6	Trichloroethene	0.12	U	1.0	0.12	ug/L
78-87-5	1,2-Dichloroproppane	0.15	U	1.0	0.15	ug/L
75-27-4	Bromodichloromethane	0.14	U	1.0	0.14	ug/L
108-10-1	4-Methyl-2-Pentanone	0.46	U	5.0	0.46	ug/L
108-88-3	Toluene	0.11	U	1.0	0.11	ug/L
10061-02-6	t-1,3-Dichloropropene	0.10	U	1.0	0.10	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.12	U	1.0	0.12	ug/L
79-00-5	1,1,2-Trichloroethane	0.11	U	1.0	0.11	ug/L

U = Not Detected

J = Estimated Value

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MDL = Method Detection Limit

N = Presumptive Evidence of a Compound

E = Value Exceeds Calibration Range

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/18/05
Project:	NAS JRB Willow Grove	Date Received:	8/19/05
Client Sample ID:	05-MW08-I	SDG No.:	T4308
Lab Sample ID:	T4308-03	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VF082811.D	1	8/29/05	VF082005

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	0.57	U	5.0	0.57	ug/L
124-48-1	Dibromochloromethane	0.13	U	1.0	0.13	ug/L
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12	ug/L
127-18-4	Tetrachloroethene	0.12	U	1.0	0.12	ug/L
108-90-7	Chlorobenzene	0.11	U	1.0	0.11	ug/L
100-41-4	Ethyl Benzene	0.11	U	1.0	0.11	ug/L
126777-61-2	m&p-Xylenes	0.24	U	1.0	0.24	ug/L
95-47-6	o-Xylene	0.13	U	1.0	0.13	ug/L
100-42-5	Styrene	0.11	U	1.0	0.11	ug/L
75-25-2	Bromoform	0.09	U	1.0	0.09	ug/L
98-82-8	Isopropylbenzene	0.12	U	1.0	0.12	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.09	U	1.0	0.09	ug/L
541-73-1	1,3-Dichlorobenzene	0.10	U	1.0	0.10	ug/L
106-46-7	1,4-Dichlorobenzene	0.12	U	1.0	0.12	ug/L
95-50-1	1,2-Dichlorobenzene	0.08	U	1.0	0.08	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.20	U	1.0	0.20	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.08	U	1.0	0.08	ug/L
1330-20-7	Total Xylenes	0.37	U	2.0	0.37	ug/L

SURROGATES

17060-07-0	1,2-Dichloroethane-d4	9.65	97 %	72 - 119	SPK: 10
1868-53-7	Dibromofluoromethane	9.53	95 %	85 - 115	SPK: 10
2037-26-5	Toluene-d8	9.71	97 %	81 - 120	SPK: 10
460-00-4	4-Bromofluorobenzene	10.1	101 %	76 - 119	SPK: 10

INTERNAL STANDARDS

363-72-4	Pentafluorobenzene	2510813	7.93	
540-36-3	1,4-Difluorobenzene	3692356	9.25	
3114-55-4	Chlorobenzene-d5	3012454	15.20	
3855-82-1	1,4-Dichlorobenzene-d4	1532038	20.55	

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Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/18/05
Project:	NAS JRB Willow Grove	Date Received:	8/19/05
Client Sample ID:	DUP-03	SDG No.:	T4308
Lab Sample ID:	T4308-06	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VF082814.D	1	8/29/05	VF082005

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.12	U	1.0	0.12	ug/L
74-87-3	Chloromethane	0.08	U	1.0	0.08	ug/L
75-01-4	Vinyl chloride	0.09	U	1.0	0.09	ug/L
74-83-9	Bromomethane	0.18	U	1.0	0.18	ug/L
75-00-3	Chloroethane	0.62	J	1.0	0.46	ug/L
75-69-4	Trichlorofluoromethane	0.10	U	1.0	0.10	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.13	U	1.0	0.13	ug/L
75-35-4	1,1-Dichloroethene	160	E	1.0	0.19	ug/L
67-64-1	Acetone	1.6	U	5.0	1.6	ug/L
75-15-0	Carbon disulfide	0.11	U	1.0	0.11	ug/L
1634-04-4	Methyl tert-butyl Ether	0.22	U	1.0	0.22	ug/L
79-20-9	Methyl Acetate	0.16	U	1.0	0.16	ug/L
75-09-2	Methylene Chloride	1.1		1.0	0.42	ug/L
156-60-5	trans-1,2-Dichloroethene	0.93	J	1.0	0.10	ug/L
75-34-3	1,1-Dichloroethane	160	E	1.0	0.17	ug/L
110-82-7	Cyclohexane	0.15	U	1.0	0.15	ug/L
78-93-3	2-Butanone	0.23	U	5.0	0.23	ug/L
56-23-5	Carbon Tetrachloride	0.16	U	1.0	0.16	ug/L
156-59-2	cis-1,2-Dichloroethene	260	E	1.0	0.09	ug/L
67-66-3	Chloroform	0.33	J	1.0	0.16	ug/L
71-55-6	1,1,1-Trichloroethane	180	E	1.0	0.16	ug/L
108-87-2	Methylcyclohexane	2.0		1.0	0.14	ug/L
71-43-2	Benzene	8.8		1.0	0.15	ug/L
107-06-2	1,2-Dichloroethane	4.1		1.0	0.13	ug/L
79-01-6	Trichloroethene	330	E	1.0	0.12	ug/L
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15	ug/L
75-27-4	Bromodichloromethane	0.14	U	1.0	0.14	ug/L
108-10-1	4-Methyl-2-Pentanone	0.46	U	5.0	0.46	ug/L
108-88-3	Toluene	0.11	U	1.0	0.11	ug/L
10061-02-6	t-1,3-Dichloropropene	0.10	U	1.0	0.10	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.12	U	1.0	0.12	ug/L
79-00-5	1,1,2-Trichloroethane	22		1.0	0.11	ug/L

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Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/18/05
Project:	NAS JRB Willow Grove	Date Received:	8/19/05
Client Sample ID:	DUP-03	SDG No.:	T4308
Lab Sample ID:	T4308-06	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VF082814.D	1	8/29/05	VF082005

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	0.57	U	5.0	0.57	ug/L
124-48-1	Dibromochloromethane	0.13	U	1.0	0.13	ug/L
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12	ug/L
127-18-4	Tetrachloroethene	43	E	1.0	0.12	ug/L
108-90-7	Chlorobenzene	0.11	U	1.0	0.11	ug/L
100-41-4	Ethyl Benzene	0.11	U	1.0	0.11	ug/L
126777-61-2	m&p-Xylenes	0.24	U	1.0	0.24	ug/L
95-47-6	o-Xylene	0.13	U	1.0	0.13	ug/L
100-42-5	Styrene	0.11	U	1.0	0.11	ug/L
75-25-2	Bromoform	0.09	U	1.0	0.09	ug/L
98-82-8	Isopropylbenzene	0.12	U	1.0	0.12	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.09	U	1.0	0.09	ug/L
541-73-1	1,3-Dichlorobenzene	0.10	U	1.0	0.10	ug/L
106-46-7	1,4-Dichlorobenzene	8.2		1.0	0.12	ug/L
95-50-1	1,2-Dichlorobenzene	1.8		1.0	0.08	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.20	U	1.0	0.20	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.08	U	1.0	0.08	ug/L
1330-20-7	Total Xylenes	0.37	U	2.0	0.37	ug/L

SURROGATES

17060-07-0	1,2-Dichloroethane-d4	10.77	108 %	72 - 119	SPK: 10
1868-53-7	Dibromofluoromethane	10.04	100 %	85 - 115	SPK: 10
2037-26-5	Toluene-d8	9.61	96 %	81 - 120	SPK: 10
460-00-4	4-Bromofluorobenzene	10.71	107 %	76 - 119	SPK: 10

INTERNAL STANDARDS

363-72-4	Pentafluorobenzene	1995484	7.93
540-36-3	1,4-Difluorobenzene	3122420	9.25
3114-55-4	Chlorobenzene-d5	2679588	15.19
3855-82-1	1,4-Dichlorobenzene-d4	1393601	20.55

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Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/18/05
Project:	NAS JRB Willow Grove	Date Received:	8/19/05
Client Sample ID:	DUP-03DL	SDG No.:	T4308
Lab Sample ID:	T4308-06DL	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VF082911.D	50	8/29/05	VF082005

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	6.2	UD	50	6.2	ug/L
74-87-3	Chloromethane	4.0	UD	50	4.0	ug/L
75-01-4	Vinyl chloride	4.2	UD	50	4.2	ug/L
74-83-9	Bromomethane	8.8	UD	50	8.8	ug/L
75-00-3	Chloroethane	23	UD	50	23	ug/L
75-69-4	Trichlorofluoromethane	5.2	UD	50	5.2	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	6.4	UD	50	6.4	ug/L
75-35-4	1,1-Dichloroethene	190	D	50	9.4	ug/L
67-64-1	Acetone	79	UD	250	79	ug/L
75-15-0	Carbon disulfide	5.5	UD	50	5.5	ug/L
1634-04-4	Methyl tert-butyl Ether	11	UD	50	11	ug/L
79-20-9	Methyl Acetate	8.0	UD	50	8.0	ug/L
75-09-2	Methylene Chloride	21	UD	50	21	ug/L
156-60-5	trans-1,2-Dichloroethene	5.0	UD	50	5.0	ug/L
75-34-3	1,1-Dichloroethane	500	D	50	8.4	ug/L
110-82-7	Cyclohexane	7.3	UD	50	7.3	ug/L
78-93-3	2-Butanone	12	UD	250	12	ug/L
56-23-5	Carbon Tetrachloride	7.8	UD	50	7.8	ug/L
156-59-2	cis-1,2-Dichloroethene	270	D	50	4.6	ug/L
67-66-3	Chloroform	8.0	UD	50	8.0	ug/L
71-55-6	1,1,1-Trichloroethane	960	D	50	8.1	ug/L
108-87-2	Methylcyclohexane	6.8	UD	50	6.8	ug/L
71-43-2	Benzene	7.4	UD	50	7.4	ug/L
107-06-2	1,2-Dichloroethane	6.4	UD	50	6.4	ug/L
79-01-6	Trichloroethene	490	D	50	5.8	ug/L
78-87-5	1,2-Dichloropropane	7.6	UD	50	7.6	ug/L
75-27-4	Bromodichloromethane	6.8	UD	50	6.8	ug/L
108-10-1	4-Methyl-2-Pentanone	23	UD	250	23	ug/L
108-88-3	Toluene	5.4	UD	50	5.4	ug/L
10061-02-6	t-1,3-Dichloropropene	4.8	UD	50	4.8	ug/L
10061-01-5	cis-1,3-Dichloropropene	6.0	UD	50	6.0	ug/L
79-00-5	1,1,2-Trichloroethane	25	JD	50	5.6	ug/L

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Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/18/05
Project:	NAS JRB Willow Grove	Date Received:	8/19/05
Client Sample ID:	DUP-03DL	SDG No.:	T4308
Lab Sample ID:	T4308-06DL	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID			
VF082911.D	50	8/29/05	VF082005			

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	29	UD	250	29	ug/L
124-48-1	Dibromochloromethane	6.5	UD	50	6.5	ug/L
106-93-4	1,2-Dibromoethane	6.0	UD	50	6.0	ug/L
127-18-4	Tetrachloroethene	49	JD	50	6.1	ug/L
108-90-7	Chlorobenzene	5.5	UD	50	5.5	ug/L
100-41-4	Ethyl Benzene	5.7	UD	50	5.7	ug/L
126777-61-2	m&p-Xylenes	12	UD	50	12	ug/L
95-47-6	o-Xylene	6.5	UD	50	6.5	ug/L
100-42-5	Styrene	5.6	UD	50	5.6	ug/L
75-25-2	Bromoform	4.7	UD	50	4.7	ug/L
98-82-8	Isopropylbenzene	6.1	UD	50	6.1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	4.6	UD	50	4.6	ug/L
541-73-1	1,3-Dichlorobenzene	4.8	UD	50	4.8	ug/L
106-46-7	1,4-Dichlorobenzene	6.2	UD	50	6.2	ug/L
95-50-1	1,2-Dichlorobenzene	4.2	UD	50	4.2	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	10	UD	50	10	ug/L
120-82-1	1,2,4-Trichlorobenzene	4.2	UD	50	4.2	ug/L
1330-20-7	Total Xylenes	18.5	UD	100	18.5	ug/L

SURROGATES

17060-07-0	1,2-Dichloroethane-d4	9.1	91 %	72 - 119	SPK: 10
1868-53-7	Dibromofluoromethane	9.22	92 %	85 - 115	SPK: 10
2037-26-5	Toluene-d8	9.12	91 %	81 - 120	SPK: 10
460-00-4	4-Bromofluorobenzene	9.46	95 %	76 - 119	SPK: 10

INTERNAL STANDARDS

363-72-4	Pentafluorobenzene	2730086	7.93
540-36-3	1,4-Difluorobenzene	4015417	9.26
3114-55-4	Chlorobenzene-d5	3254738	15.21
3855-82-1	1,4-Dichlorobenzene-d4	1637163	20.55

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Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/18/05
Project:	NAS JRB Willow Grove	Date Received:	8/19/05
Client Sample ID:	RB-081805	SDG No.:	T4308
Lab Sample ID:	T4308-07	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VF082909.D	1	8/29/05	VF082005

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.12	U	1.0	0.12	ug/L
74-87-3	Chloromethane	0.08	U	1.0	0.08	ug/L
75-01-4	Vinyl chloride	0.09	U	1.0	0.09	ug/L
74-83-9	Bromomethane	0.18	U	1.0	0.18	ug/L
75-00-3	Chloroethane	0.46	U	1.0	0.46	ug/L
75-69-4	Trichlorofluoromethane	0.10	U	1.0	0.10	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.13	U	1.0	0.13	ug/L
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19	ug/L
67-64-1	Acetone	1.6	U	5.0	1.6	ug/L
75-15-0	Carbon disulfide	0.11	U	1.0	0.11	ug/L
1634-04-4	Methyl tert-butyl Ether	0.22	U	1.0	0.22	ug/L
79-20-9	Methyl Acetate	0.16	U	1.0	0.16	ug/L
75-09-2	Methylene Chloride	32		1.0	0.42	ug/L
156-60-5	trans-1,2-Dichloroethene	0.10	U	1.0	0.10	ug/L
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17	ug/L
110-82-7	Cyclohexane	0.15	U	1.0	0.15	ug/L
78-93-3	2-Butanone	0.23	U	5.0	0.23	ug/L
56-23-5	Carbon Tetrachloride	0.16	U	1.0	0.16	ug/L
156-59-2	cis-1,2-Dichloroethene	0.09	U	1.0	0.09	ug/L
67-66-3	Chloroform	0.16	U	1.0	0.16	ug/L
71-55-6	1,1,1-Trichloroethane	0.16	U	1.0	0.16	ug/L
108-87-2	Methylcyclohexane	0.14	U	1.0	0.14	ug/L
71-43-2	Benzene	0.15	U	1.0	0.15	ug/L
107-06-2	1,2-Dichloroethane	0.13	U	1.0	0.13	ug/L
79-01-6	Trichloroethene	0.12	U	1.0	0.12	ug/L
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15	ug/L
75-27-4	Bromodichloromethane	0.14	U	1.0	0.14	ug/L
108-10-1	4-Methyl-2-Pentanone	0.46	U	5.0	0.46	ug/L
108-88-3	Toluene	0.11	U	1.0	0.11	ug/L
10061-02-6	t-1,3-Dichloropropene	0.10	U	1.0	0.10	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.12	U	1.0	0.12	ug/L
79-00-5	1,1,2-Trichloroethane	0.11	U	1.0	0.11	ug/L

U = Not Detected

J = Estimated Value

RL = Reporting Limit

B = Analyte Found in Associated Method Blank

MDL = Method Detection Limit

N = Presumptive Evidence of a Compound

E = Value Exceeds Calibration Range



284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/18/05
Project:	NAS JRB Willow Grove	Date Received:	8/19/05
Client Sample ID:	RB-081805	SDG No.:	T4308
Lab Sample ID:	T4308-07	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VF082909.D	1	8/29/05	VF082005

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	0.57	U	5.0	0.57	ug/L
124-48-1	Dibromochloromethane	0.13	U	1.0	0.13	ug/L
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12	ug/L
127-18-4	Tetrachloroethene	0.12	U	1.0	0.12	ug/L
108-90-7	Chlorobenzene	0.11	U	1.0	0.11	ug/L
100-41-4	Ethyl Benzene	0.11	U	1.0	0.11	ug/L
126777-61-2	m&p-Xylenes	0.24	U	1.0	0.24	ug/L
95-47-6	o-Xylene	0.13	U	1.0	0.13	ug/L
100-42-5	Styrene	0.11	U	1.0	0.11	ug/L
75-25-2	Bromoform	0.09	U	1.0	0.09	ug/L
98-82-8	Isopropylbenzene	0.12	U	1.0	0.12	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.09	U	1.0	0.09	ug/L
541-73-1	1,3-Dichlorobenzene	0.10	U	1.0	0.10	ug/L
106-46-7	1,4-Dichlorobenzene	0.12	U	1.0	0.12	ug/L
95-50-1	1,2-Dichlorobenzene	0.08	U	1.0	0.08	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.20	U	1.0	0.20	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.08	U	1.0	0.08	ug/L
1330-20-7	Total Xylenes	0.37	U	2.0	0.37	ug/L

SURROGATES

17060-07-0	1,2-Dichloroethane-d4	8.83	88 %	72 - 119	SPK: 10
1868-53-7	Dibromofluoromethane	9.29	93 %	85 - 115	SPK: 10
2037-26-5	Toluene-d8	9.36	94 %	81 - 120	SPK: 10
460-00-4	4-Bromofluorobenzene	9.7	97 %	76 - 119	SPK: 10

INTERNAL STANDARDS

363-72-4	Pentafluorobenzene	2833725	7.93
540-36-3	1,4-Difluorobenzene	4049311	9.25
3114-55-4	Chlorobenzene-d5	3282100	15.20
3855-82-1	1,4-Dichlorobenzene-d4	1652658	20.56

U = Not Detected

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J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound



284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/18/05
Project:	NAS JRB Willow Grove	Date Received:	8/19/05
Client Sample ID:	TB-081805	SDG No.:	T4308
Lab Sample ID:	T4308-01	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VF082810.D	1	8/29/05	VF082005

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.12	U	1.0	0.12	ug/L
74-87-3	Chloromethane	0.08	U	1.0	0.08	ug/L
75-01-4	Vinyl chloride	0.09	U	1.0	0.09	ug/L
74-83-9	Bromomethane	0.18	U	1.0	0.18	ug/L
75-00-3	Chloroethane	0.46	U	1.0	0.46	ug/L
75-69-4	Trichlorodifluoromethane	0.10	U	1.0	0.10	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.13	U	1.0	0.13	ug/L
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19	ug/L
67-64-1	Acetone	1.6	U	5.0	1.6	ug/L
75-15-0	Carbon disulfide	0.11	U	1.0	0.11	ug/L
1634-04-4	Methyl tert-butyl Ether	0.22	U	1.0	0.22	ug/L
79-20-9	Methyl Acetate	0.16	U	1.0	0.16	ug/L
75-09-2	Methylene Chloride	3.5		1.0	0.42	ug/L
156-60-5	trans-1,2-Dichloroethene	0.10	U	1.0	0.10	ug/L
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17	ug/L
110-82-7	Cyclohexane	0.15	U	1.0	0.15	ug/L
78-93-3	2-Butanone	0.23	U	5.0	0.23	ug/L
56-23-5	Carbon Tetrachloride	0.16	U	1.0	0.16	ug/L
156-59-2	cis-1,2-Dichloroethene	0.09	U	1.0	0.09	ug/L
67-66-3	Chloroform	0.16	U	1.0	0.16	ug/L
71-55-6	1,1,1-Trichloroethane	0.16	U	1.0	0.16	ug/L
108-87-2	Methylcyclohexane	0.14	U	1.0	0.14	ug/L
71-43-2	Benzene	0.15	U	1.0	0.15	ug/L
107-06-2	1,2-Dichloroethane	0.13	U	1.0	0.13	ug/L
79-01-6	Trichloroethene	0.12	U	1.0	0.12	ug/L
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15	ug/L
75-27-4	Bromodichloromethane	0.14	U	1.0	0.14	ug/L
108-10-1	4-Methyl-2-Pentanone	0.46	U	5.0	0.46	ug/L
108-88-3	Toluene	0.11	U	1.0	0.11	ug/L
10061-02-6	t-1,3-Dichloropropene	0.10	U	1.0	0.10	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.12	U	1.0	0.12	ug/L
79-00-5	1,1,2-Trichloroethane	0.11	U	1.0	0.11	ug/L

U = Not Detected

J = Estimated Value

RL = Reporting Limit

B = Analyte Found in Associated Method Blank

MDL = Method Detection Limit

N = Presumptive Evidence of a Compound

E = Value Exceeds Calibration Range

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/18/05
Project:	NAS JRB Willow Grove	Date Received:	8/19/05
Client Sample ID:	TB-081805	SDG No.:	T4308
Lab Sample ID:	T4308-01	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VF082810.D	1	8/29/05	VF082005

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	0.57	U	5.0	0.57	ug/L
124-48-1	Dibromochloromethane	0.13	U	1.0	0.13	ug/L
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12	ug/L
127-18-4	Tetrachloroethene	0.12	U	1.0	0.12	ug/L
108-90-7	Chlorobenzene	0.11	U	1.0	0.11	ug/L
100-41-4	Ethyl Benzene	0.11	U	1.0	0.11	ug/L
126777-61-2	m&p-Xylenes	0.24	U	1.0	0.24	ug/L
95-47-6	o-Xylene	0.13	U	1.0	0.13	ug/L
100-42-5	Styrene	0.11	U	1.0	0.11	ug/L
75-25-2	Bromoform	0.09	U	1.0	0.09	ug/L
98-82-8	Isopropylbenzene	0.12	U	1.0	0.12	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.09	U	1.0	0.09	ug/L
541-73-1	1,3-Dichlorobenzene	0.10	U	1.0	0.10	ug/L
106-46-7	1,4-Dichlorobenzene	0.12	U	1.0	0.12	ug/L
95-50-1	1,2-Dichlorobenzene	0.08	U	1.0	0.08	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.20	U	1.0	0.20	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.08	U	1.0	0.08	ug/L
1330-20-7	Total Xylenes	0.37	U	2.0	0.37	ug/L

SURROGATES

17060-07-0	1,2-Dichloroethane-d4	9.84	98 %	72 - 119	SPK: 10
1868-53-7	Dibromofluoromethane	10.04	100 %	85 - 115	SPK: 10
2037-26-5	Toluene-d8	10.05	101 %	81 - 120	SPK: 10
460-00-4	4-Bromofluorobenzene	10.44	104 %	76 - 119	SPK: 10

INTERNAL STANDARDS

363-72-4	Pentafluorobenzene	2449733	7.93
540-36-3	1,4-Difluorobenzene	3576194	9.24
3114-55-4	Chlorobenzene-d5	2925490	15.20
3855-82-1	1,4-Dichlorobenzene-d4	1507152	20.54

U = Not Detected

J = Estimated Value

RL = Reporting Limit

B = Analyte Found in Associated Method Blank

MDL = Method Detection Limit

N = Presumptive Evidence of a Compound

E = Value Exceeds Calibration Range

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/18/05
Project:	NAS JRB Willow Grove	Date Received:	8/19/05
Client Sample ID:	05-MW01-S	SDG No.:	T4308
Lab Sample ID:	T4308-04	Matrix:	WATER
Analytical Method:	8270	% Moisture:	100
Sample Wt/Wt:	960.0 mL	Extract Vol:	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BA020662.D	1	8/22/05	8/27/05	BA082305

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
123-91-1	1,4-Dioxane	13		2.1	2.1	ug/L
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	101620	7.56			
1146-65-2	Naphthalene-d8	281763	9.96			
15067-26-2	Acenaphthene-d10	189889	13.46			
1517-22-2	Phenanthrene-d10	321890	16.45			
1719-03-5	Chrysene-d12	317890	21.80			
1520-96-3	Perylene-d12	337316	25.18			

U = Not Detected

RL = Reporting Limit

MDL = Method Detection Limit

E = Value Exceeds Calibration Range

J = Estimated Value

B = Analyte Found In Associated Method Blank

N = Presumptive Evidence of a Compound

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/18/05
Project:	NAS JRB Willow Grove	Date Received:	8/19/05
Client Sample ID:	05-MW01-SI	SDG No.:	T4308
Lab Sample ID:	T4308-05	Matrix:	WATER
Analytical Method:	8270	% Moisture:	100
Sample Wt/Wt:	960.0 mL	Extract Vol:	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BA020663.D	1	8/22/05	8/27/05	BA082305

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
123-91-1	1,4-Dioxane	2.1	U	2.1	2.1	ug/L
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	115019	7.56			
1146-65-2	Naphthalene-d8	329861	9.97			
15067-26-2	Acenaphthene-d10	213652	13.46			
1517-22-2	Phenanthrene-d10	359419	16.46			
1719-03-5	Chrysene-d12	366953	21.80			
1520-96-3	Perylene-d12	374744	25.18			

U = Not Detected

RL = Reporting Limit

MDL = Method Detection Limit

E = Value Exceeds Calibration Range

J = Estimated Value

B = Analyte Found In Associated Method Blank

N = Presumptive Evidence of a Compound

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/18/05
Project:	NAS JRB Willow Grove	Date Received:	8/19/05
Client Sample ID:	05-MW08-I	SDG No.:	T4308
Lab Sample ID:	T4308-03	Matrix:	WATER
Analytical Method:	8270	% Moisture:	100
Sample Wt/Wt:	960.0 mL	Extract Vol:	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BA020661.D	1	8/22/05	8/27/05	BA082305

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
123-91-1	1,4-Dioxane	2.1	U	2.1	2.1	ug/L
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	114763	7.55			
1146-65-2	Naphthalene-d8	329565	9.97			
15067-26-2	Acenaphthene-d10	216172	13.46			
1517-22-2	Phenanthrene-d10	362736	16.45			
1719-03-5	Chrysene-d12	377717	21.80			
1520-96-3	Perylene-d12	383783	25.18			

U = Not Detected
 RL = Reporting Limit
 MDL = Method Detection Limit
 E = Value Exceeds Calibration Range

J = Estimated Value
 B = Analyte Found In Associated Method Blank
 N = Presumptive Evidence of a Compound

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/18/05
Project:	NAS JRB Willow Grove	Date Received:	8/19/05
Client Sample ID:	05-MW08-S	SDG No.:	T4308
Lab Sample ID:	T4308-02	Matrix:	WATER
Analytical Method:	8270	% Moisture:	100
Sample Wt/Wt:	950.0 mL	Extract Vol:	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID			
BA020660.D	1	8/22/05	8/27/05	BA082305			

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
123-91-1	1,4-Dioxane	2.1	U	2.1	2.1	ug/L
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	121473	7.56			
1146-65-2	Naphthalene-d8	346440	9.97			
15067-26-2	Acenaphthene-d10	229409	13.47			
1517-22-2	Phenanthrene-d10	385991	16.46			
1719-03-5	Chrysene-d12	382896	21.80			
1520-96-3	Perylene-d12	402137	25.18			

U = Not Detected

RL = Reporting Limit

MDL = Method Detection Limit

E = Value Exceeds Calibration Range

J = Estimated Value

B = Analyte Found In Associated Method Blank

N = Presumptive Evidence of a Compound

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/18/05
Project:	NAS JRB Willow Grove	Date Received:	8/19/05
Client Sample ID:	DUP-03	SDG No.:	T4308
Lab Sample ID:	T4308-06	Matrix:	WATER
Analytical Method:	8270	% Moisture:	100
Sample Wt/Wt:	950.0 mL	Extract Vol:	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BA020665.D	1	8/22/05	8/27/05	BA082305

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
123-91-1	1,4-Dioxane	12		2.1	2.1	ug/L
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	113157	7.56			
1146-65-2	Naphthalene-d8	316953	9.96			
15067-26-2	Acenaphthene-d10	210378	13.47			
1517-22-2	Phenanthrene-d10	355541	16.46			
1719-03-5	Chrysene-d12	346826	21.80			
1520-96-3	Perylene-d12	386145	25.18			

U = Not Detected

RL = Reporting Limit

MDL = Method Detection Limit

E = Value Exceeds Calibration Range

J = Estimated Value

B = Analyte Found In Associated Method Blank

N = Presumptive Evidence of a Compound

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/18/05
Project:	NAS JRB Willow Grove	Date Received:	8/19/05
Client Sample ID:	RB-081805	SDG No.:	T4308
Lab Sample ID:	T4308-07	Matrix:	WATER
Analytical Method:	8270	% Moisture:	100
Sample Wt/Wt:	960.0 mL	Extract Vol:	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BA020664.D	1	8/22/05	8/27/05	BA082305

CAS Number	Parameter	Cone.	Qualifier	RL	MDL	Units
TARGETS						
123-91-1	1,4-Dioxane	2.1	U	2.1	2.1	ug/L
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	117971	7.56			
1146-65-2	Naphthalene-d8	340137	9.96			
15067-26-2	Acenaphthene-d10	225483	13.47			
1517-22-2	Phenanthrene-d10	375867	16.46			
1719-03-5	Chrysene-d12	374368	21.80			
1520-96-3	Perylene-d12	395824	25.18			

U = Not Detected

RL = Reporting Limit

MDL = Method Detection Limit

E = Value Exceeds Calibration Range

J = Estimated Value

B = Analyte Found In Associated Method Blank

N = Presumptive Evidence of a Compound

APPENDIX C

Support Documentation

CHEMTECH

CHAIN OF CUSTODY RECORD

**284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 Fax (908) 789-8922
www.chemtech.net**

CHEMTECH PROJECT NO.

T4308

COC Number

053929

CLIENT INFORMATION

CLIENT PROJECT INFORMATION

CLIENT BILLING INFORMATION

REPORT TO BE SENT TO:

COMPANY: Tetra Tech NUS

PROJECT NAME: NASJRB Willow Grove

ADDRESS: 600 Clark Avenue Suite 3

PROJECT NO.: 2192 LOCATION: Willow Grove PA

CITY: King of Prussia STATE: PA ZIP: 19406

PROJECT MANAGER: Russ Turner

ATTENTION: Russ Turner

e-mail: rturner@tnus.com

PHONE: 610 491 9688 FAX: 610 491 9645

PHONE: 610 491 9688 FAX: 610 491 9645

DATA TURNAROUND INFORMATION

FAX: _____ DAYS •

HARD COPY: _____ DAYS •

EDD: _____ DAYS •

• TO BE APPROVED BY CHEMTECH
STANDARD TURNAROUND TIME IS 10 BUSINESS DAYS

DATA DELIVERABLE INFORMATION

- RESULTS ONLY USEPA CLP
 RESULTS + QC New York State ASP "B"
 New Jersey REDUCED New York State ASP "A"
 New Jersey CLP Other _____
 EDD FORMAT

BILL TO: Tetra Tech NUS PO#:

71 Foster Plaza

ADDRESS: 661 Andersen Drive

CITY: Pittsburgh STATE: PA ZIP: 15220

ATTENTION:

PHONE:

ANALYSIS

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE		SAMPLE COLLECTION		# OF BOTTLES	PRESERVATIVES									COMMENTS	
			COMP	GRAB	DATE	TIME		HCl	Ice									
								1	2	3	4	5	6	7	8	9		
1. 1	TET-081805	Ag	X		8/18/05	0700	3	3										← Specify Preservatives A-HCl B-HNO ₃ C-H ₂ SO ₄ D-NaOH E-ICE F-Other
2. 2	05-MW08-S	GW	X		8/18/05	1115	4		1									Laboratory supplied Trip Blank
3. 3	05-MW08-I	GW	X		8/18/05	1040	4	3	1									
4. 4	05-MW01-S	GW	X		8/18/05	1315	4	3	1									
5. 5	05-MW01-SI	GW	X		8/18/05	1330	4	3	1									
6. 6	DUP-03	GW	X		8/18/05	1200	4	3	1									Laboratory supplied Water for Blank
7. 7	1B-081805	Ag	X		8/18/05	1600	4	3	1									
8.																		
9.																		
10.																		

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER: <i>[Signature]</i>	DATE/TIME: 8/18/05 1700	RECEIVED BY: 1.	Conditions of bottles or coolers at receipt: MeOH extraction requires an additional 4 oz jar for percent solid. Comments: Trip Blank supplied by the Laboratory Rinsate Blank water supplied by Lab	Compliant <input checked="" type="checkbox"/> Non Compliant <input type="checkbox"/> Ice in Cooler? <input checked="" type="checkbox"/>	Cooler Temp. <i>4°C</i>
ED BY: <i>[Signature]</i>	DATE/TIME: 8/18/05	RECEIVED BY: 2.			
ED BY: <i>[Signature]</i>	DATE/TIME: 8/18/05	RECEIVED FOR LAB BY: 3. Jim Mundz	SHIPPED VIA: CLIENT: <input type="checkbox"/> HAND DELIVERED <input checked="" type="checkbox"/> OVERNIGHT CHEMTECH: <input type="checkbox"/> PICKED UP <input type="checkbox"/> OVERNIGHT	Shipment Complete: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	

CASE NARRATIVE

Tetra Tech NUS, Inc.

Project Name: NAS JRB Willow Grove

Project # N/A

Chemtech Project # T4308

A. Number of Samples and Date of Receipt:

7 Water samples were received on 8/19/05.

B. Parameters

According to the Chain of Custody document, the following analyses were requested: SVOCMS Group1, and VOCMS Group1. This data package contains results for VOCMS Group1.

C. Analytical Techniques:

The analysis performed on instrument MSVOA F were done using GC column RTX624, which is 75 meters, 0.53 ID, 3.0 df, Restek Cat. #10974. The Trap was supplied by Supelco, VOCARB 3000, Tekmar 2000 Concentrator.

D. QA/ QC Samples:

The Holding Times were met for all analysis.

The Surrogate recoveries met the acceptable criteria.

The Internal Standards Areas met the acceptable requirements.

The Retention Times were acceptable for all samples.

The MS recoveries met the requirements for all compounds.

The MSD recoveries met the acceptable requirements.

The RPD recoveries met criteria.

The Blank Spike met requirements for all samples.

The Blank analysis did not indicate the presence of lab contamination.

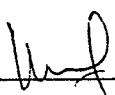
The Calibration met the requirements.

The Tuning criteria met requirements.

E. Additional Comments:

Samples 05-MW01-S and DUP-0 were diluted due to high concentrations.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature 

Name: Krupa Dubey

Date: 9/19/05

Title: QA/QC

CASE NARRATIVE

Tetra Tech NUS, Inc.

Project Name: NAS JRB Willow Grove

Project # N/A

Chemtech Project # T4308

A. Number of Samples and Date of Receipt:

7 Water samples were received on 8/19/05.

B. Parameters

According to the Chain of Custody document, the following analyses were requested: SVOCMS Group1, and VOCMS Group1. This data package contains results for SVOCMS Group1.

C. Analytical Techniques:

The samples were analyzed on instrument MSBNA A using GC Column RTX-5 SILMS which is 30 meters, 0.32mm ID, 0.5um df, Catalog # 12739.

D. QA/ QC Samples:

The Holding Times were met for all analysis.

The Surrogate recoveries met the acceptable criteria.

The Internal Standards Areas met the acceptable requirements.

The Retention Times were acceptable for all samples.

The Blank analysis did not indicate the presence of lab contamination.

The Calibration met the requirements.

The Tuning criteria met requirements.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature _____

Name: Krupa Dubey

Date: _____

Title: QA/QC

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name:	Chemtech	Contract:	TETR04				
Lab Code:	CHEM	Case No.:	T4162	SAS No.:	T4162	SDG No.:	T4162
Instrument ID:	MSVOAF	Calibration Date(s):	8/20/2005		8/20/2005		
Heated Purge:	(Y/N) N	Calibration Time(s):	11:13		13:53		
GC Column:	RTX624	ID:	0.53	(mm)			

LAB FILE ID:	RRF001 = VF082002.D	RRF004 = VF082003.D					
	RRF010 = VF082004.D	RRF020 = VF082005.D	RRF040 = VF082006.D				
COMPOUND	RRF001	RRF004	RRF010	RRF020	RRF040	RRF	% RSD
Dichlorodifluoromethane	0.542	0.527	0.517	0.502	0.495	0.517	3.7
Chloromethane *	0.333	0.317	0.326	0.315	0.320	0.322	2.3
Vinyl Chloride *	0.429	0.424	0.431	0.405	0.392	0.416	4.1
Bromomethane	0.262	0.237	0.223	0.215	0.204	0.228	9.8
Chloroethane	0.240	0.222	0.177	0.130	0.115	0.177	31.0
Trichlorodifluoromethane	0.750	0.691	0.672	0.653	0.611	0.675	7.6
1,1,2-Trichlorotrifluor	0.799	0.767	0.741	0.729	0.690	0.745	5.5
1,1-Dichloroethene *	0.428	0.410	0.395	0.385	0.362	0.396	6.3
Acetone	0.024	0.019	0.017	0.016	0.015	0.018	19.8
Carbon Disulfide	1.224	1.237	1.214	1.178	1.115	1.194	4.1
Methyl tert-butyl Ether	0.476	0.504	0.465	0.493	0.457	0.479	4.1
Methyl Acetate	0.093	0.088	0.079	0.083	0.078	0.084	7.5
Methylene Chloride	0.499	0.371	0.326	0.328	0.309	0.367	21.1
trans-1,2-Dichloroethen	0.451	0.450	0.434	0.440	0.432	0.441	2.0
1,1-Dichloroethane *	0.747	0.752	0.731	0.744	0.707	0.736	2.5
Cyclohexane	0.838	0.850	0.805	0.791	0.742	0.805	5.3
2-Butanone	0.060	0.068	0.062	0.066	0.059	0.063	6.1
Carbon Tetrachloride *	0.505	0.575	0.467	0.438	0.429	0.483	12.3
cis-1,2-Dichloroethene	0.445	0.449	0.439	0.447	0.436	0.443	1.2
Chloroform *	0.748	0.787	0.759	0.774	0.746	0.763	2.3
1,1,1-Trichloroethane *	0.733	0.744	0.716	0.723	0.713	0.726	1.8
Methylcyclohexane	0.678	0.655	0.632	0.624	0.596	0.637	4.9
Benzene *	1.050	0.981	0.959	0.942	0.903	0.967	5.6
1,2-Dichloroethane *	0.181	0.185	0.168	0.175	0.166	0.175	4.7
Trichloroethene *	0.391	0.366	0.368	0.372	0.362	0.372	3.0
1,2-Dichloropropane *	0.340	0.323	0.308	0.311	0.288	0.314	6.1
Bromodichloromethane *	0.376	0.392	0.381	0.388	0.368	0.381	2.5
4-Methyl-2-Pentanone	0.083	0.090	0.083	0.087	0.075	0.084	6.7
Toluene *	0.729	0.717	0.702	0.694	0.660	0.700	3.8
t-1,3-Dichloropropene *	0.257	0.283	0.272	0.280	0.260	0.270	4.3
cis-1,3-Dichloropropene *	0.401	0.421	0.405	0.421	0.388	0.407	3.5
1,1,2-Trichloroethane *	0.179	0.184	0.174	0.175	0.158	0.174	5.6
2-Hexanon	0.051	0.055	0.053	0.056	0.048	0.053	6.1
Dibromochloromethane *	0.219	0.242	0.232	0.244	0.232	0.234	4.3
1,2-Dibromoethane	0.195	0.211	0.203	0.207	0.192	0.202	4.0
T trachloroethene *	0.413	0.385	0.386	0.377	0.371	0.386	4.2
Chlorobenzene *	1.027	1.003	0.967	0.989	0.942	0.986	3.3

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name:	Chemtech	Contract:	TETR04				
Lab Code:	CHEM	Case No.:	T4272	SAS No.:	T4272	SDG No.:	T4272
Instrument ID:	MSVOAF	Calibration Date/Time:			8/27/2005	13:22	
Lab File ID:	VF082702.D	Init. Calib. Date(s):			8/20/2005	8/20/2005	
Heated Purge:	(Y/N) N	Init. Calib. Time(s):			11:13	13:53	
GC Column:	RTX624	ID:	0.53	(mm)			

COMPOUND	RRF	RRF010	MIN RRF	%D	MAX%D
Dichlorodifluoromethane	0.517	0.498		-3.7	
Chloromethane	0.322	0.281	0.100	-12.7	
Vinyl Chloride	0.416	0.433		4.1	20.0
Bromomethane	0.228	0.217		-4.8	
Chloroethane	0.177	0.196		10.7	
Trichlorofluoromethane	0.675	0.717		6.2	
1,1,2-Trichlorotrifluoroethane	0.745	0.777		4.3	
1,1-Dichloroethene	0.396	0.409		3.3	20.0
Acetone	0.018	0.016		-11.1	
Carbon Disulfide	1.194	1.221		2.3	
Methyl tert-butyl Ether	0.479	0.447		-6.7	
Methyl Acetate	0.084	0.080		-4.8	
Methylene Chloride	0.367	0.329		-10.4	
trans-1,2-Dichloroethene	0.441	0.449		1.8	
1,1-Dichloroethane	0.736	0.762	0.100	3.5	
Cyclohexane	0.805	0.832		3.4	
2-Butanone	0.063	0.059		-6.3	
Carbon Tetrachloride	0.483	0.489		1.2	
cis-1,2-Dichloroethene	0.443	0.456		2.9	
Chloroform	0.763	0.769		0.8	20.0
1,1,1-Trichloroethane	0.726	0.753		3.7	
Methylcyclohexane	0.637	0.669		5.0	
Benzene	0.967	1.007		4.1	
1,2-Dichloroethane	0.175	0.172		-1.7	
Trichloroethene	0.372	0.380		2.2	
1,2-Dichloropropane	0.314	0.324		3.2	20.0
Bromodichloromethane	0.381	0.391		2.6	
4-Methyl-2-Pentanone	0.084	0.080		-4.8	
Toluene	0.700	0.716		2.3	20.0
t-1,3-Dichloropropene	0.270	0.274		1.5	
cis-1,3-Dichloropropene	0.407	0.414		1.7	
1,1,2-Trichloroethane	0.174	0.173		-0.6	
2-Hexanone	0.053	0.050		-5.7	
Dibromochloromethane	0.234	0.236		0.9	
1,2-Dibromoethane	0.202	0.199		-1.5	
Tetrachloroethene	0.386	0.420		8.8	
Chlorobenzene	0.986	1.040	0.300	5.5	
Ethyl Benzene	0.567	0.607		7.1	20.0
m&p-Xylenes	0.685	0.749		9.3	
o-Xylene	0.631	0.677		7.3	
Styrene	1.024	1.093		6.7	

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Chemtech

Contract: TETR04

Lab Code: CHEM

Case No.: T4272

SAS No.: T4272

SDG No.: T4272

Instrument ID: MSVOAF

Calibration Date/Time: 8/28/2005 19:59

Lab File ID: VF082802.D

Init. Calib. Date(s): 8/20/2005 8/20/2005

Heated Purge: (Y/N) N

Init. Calib. Time(s): 11:13 13:53

GC Column: RTX624 ID: 0.53 (mm)

COMPOUND	RRF	RRF010	MIN RRF	%D	MAX%D
Dichlorodifluoromethane	0.517	0.454		-12.2	
Chloromethane	0.322	0.264	0.100	-18.0	
Vinyl Chloride	0.416	0.398		-4.3	20.0
Bromomethane	0.228	0.245		7.5	
Chloroethane	0.177	0.197		11.3	
Trichlorofluoromethane	0.675	0.689		2.1	
1,1,2-Trichlorotrifluoroethane	0.745	0.820		10.1	
1,1-Dichloroethene	0.396	0.428		8.1	20.0
Acetone	0.018	0.020		11.1	
Carbon Disulfide	1.194	1.250		4.7	
Methyl tert-butyl Ether	0.479	0.533		11.3	
Methyl Acetate	0.084	0.104		23.8	
Methylene Chloride	0.367	0.375		2.2	
trans-1,2-Dichloroethene	0.441	0.487		10.4	
1,1-Dichloroethane	0.736	0.805	0.100	9.4	
Cyclohexane	0.805	0.815		1.2	
2-Butanone	0.063	0.070		11.1	
Carbon Tetrachloride	0.483	0.515		6.6	
cis-1,2-Dichloroethene	0.443	0.480		8.4	
Chloroform	0.763	0.823		7.9	20.0
1,1,1-Trichloroethane	0.726	0.768		5.8	
Methylcyclohexane	0.637	0.682		7.1	
Benzene	0.967	1.082		11.9	
1,2-Dichloroethane	0.175	0.204		16.6	
Trichloroethene	0.372	0.422		13.4	
1,2-Dichloropropane	0.314	0.344		9.6	20.0
Bromodichloromethane	0.381	0.438		15.0	
4-Methyl-2-Pentanone	0.084	0.095		13.1	
Toluene	0.700	0.785		12.1	20.0
t-1,3-Dichloropropene	0.270	0.316		17.0	
cis-1,3-Dichloropropene	0.407	0.465		14.3	
1,1,2-Trichloroethane	0.174	0.203		16.7	
2-Hexanone	0.053	0.059		11.3	
Dibromochloromethane	0.234	0.279		19.2	
1,2-Dibromoethane	0.202	0.239		18.3	
Tetrachloroethene	0.386	0.581		50.5	
Chlorobenzene	0.986	1.142	0.300	15.8	
Ethyl Benzene	0.567	0.649		14.5	20.0
m&p-Xylenes	0.685	0.800		16.8	
o-Xylene	0.631	0.735		16.5	
Styrene	1.024	1.211		18.3	

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name:	<u>Chemtech</u>	Contract:	<u>TETR04</u>				
Lab Code:	<u>CHEM</u>	Case No.:	<u>T4272</u>	SAS No.:	<u>T4272</u>	SDG No.:	<u>T4272</u>
Instrument ID:	<u>MSVOAF</u>			Calibration Date/Time:	<u>8/28/2005</u>	<u>19:59</u>	
Lab File ID:	<u>VF082802.D</u>			Init. Calib. Date(s):	<u>8/20/2005</u>	<u>8/20/2005</u>	
Heated Purge:	(Y/N) <u>N</u>			Init. Calib. Time(s):	<u>11:13</u>	<u>13:53</u>	
GC Column:	<u>RTX624</u>	ID:	<u>0.53</u> (mm)				

COMPOUND	RRF	RRF010	MIN RRF	%D	MAX%D
Bromoform	0.151	0.193	0.100	27.8	
Isopropylbenzene	4.125	4.491		8.9	
1,1,2,2-Tetrachloroethane	0.542	0.583	0.300	7.6	
1,3-Dichlorobenzene	1.630	1.876		15.1	
1,4-Dichlorobenzene	1.573	1.805		14.7	
1,2-Dichlorobenzene	1.297	1.486		14.6	
1,2-Dibromo-3-Chloropropane	0.083	0.090		8.4	
1,2,4-Trichlorobenzene	0.972	1.177		21.1	
1,4-Dioxane	0.001	0.001		0.0	
1,2-Dichloroethane-d4	0.229	0.227		-0.9	
Dibromofluoromethane	0.353	0.372		5.4	
Toluene-d8	1.053	1.057		0.4	
4-Bromofluorobenzene	0.521	0.540		3.6	

All other compounds must meet a minimum RRF of 0.010.

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name:	Chemtech	Contract:	TETR04				
Lab Code:	CHEM	Case No.:	T4272	SAS No.:	T4272	SDG No.:	T4272
Instrument ID:	MSVOAF	Calibration Date/Time:			8/29/2005	11:53	
Lab File ID:	VF082902.D	Init. Calib. Date(s):			8/20/2005	8/20/2005	
Heated Purge:	(Y/N) N	Init. Calib. Time(s):			11:13	13:53	
GC Column:	RTX624	ID:	0.53	(mm)			

COMPOUND	RRF	RRF010	MIN RRF	%D	MAX%D
Dichlorodifluoromethane	0.517	0.492		-4.8	
Chloromethane	0.322	0.299	0.100	-7.1	
Vinyl Chloride	0.416	0.434		4.3	20.0
Bromomethane	0.228	0.220		-3.5	
Chloroethane	0.177	0.186		5.1	
Trichlorofluoromethane	0.675	0.724		7.3	
1,1,2-Trichlorotrifluoroethane	0.745	0.817		9.7	
1,1-Dichloroethene	0.396	0.426		7.6	20.0
Acetone	0.018	0.016		-11.1	
Carbon Disulfide	1.194	1.242		4.0	
Methyl tert-butyl Ether	0.479	0.480		0.2	
Methyl Acetate	0.084	0.095		13.1	
Methylene Chloride	0.367	0.354		-3.5	
trans-1,2-Dichloroethene	0.441	0.459		4.1	
1,1-Dichloroethane	0.736	0.779	0.100	5.8	
Cyclohexane	0.805	0.849		5.5	
2-Butanone	0.063	0.064		1.6	
Carbon Tetrachloride	0.483	0.505		4.6	
cis-1,2-Dichloroethene	0.443	0.470		6.1	
Chloroform	0.763	0.803		5.2	20.0
1,1,1-Trichloroethane	0.726	0.767		5.6	
Methylcyclohexane	0.637	0.665		4.4	
Benzene	0.967	1.022		5.7	
1,2-Dichloroethane	0.175	0.178		1.7	
Trichloroethene	0.372	0.385		3.5	
1,2-Dichloropropane	0.314	0.326		3.8	20.0
Bromodichloromethane	0.381	0.398		4.5	
4-Methyl-2-Pentanone	0.084	0.085		1.2	
Toluene	0.700	0.739		5.6	20.0
t-1,3-Dichloropropene	0.270	0.282		4.4	
cis-1,3-Dichloropropene	0.407	0.426		4.7	
1,1,2-Trichloroethane	0.174	0.181		4.0	
2-Hexanone	0.053	0.053		0.0	
Dibromochloromethane	0.234	0.249		6.4	
1,2-Dibromoethane	0.202	0.210		4.0	
Tetrachloroethene	0.386	0.438		13.5	
Chlorobenzene	0.986	1.061	0.300	7.6	
Ethyl Benzene	0.567	0.618		9.0	20.0
m&p-Xylenes	0.685	0.769		12.3	
c-Xylene	0.631	0.700		10.9	
Styrene	1.024	1.111		8.5	

EVALUATION OF ORGANIC DUPLICATE ANALYSIS PRECISION

Precision Objectives	Aqueous Solid Air	Compound >or=5xCRQL/MDL RPD<or=30% RPD<or=50% RPD<or=20%	Compound <5xCRQL Difference < or =CRQL/MDL Difference < or =2xCRQL/MDL Difference < or =CRQL/MDL				
Sample ID:	05-MW01-S	DUP-03					
Laboratory ID:							
Sample Date:	8/18/2005	8/18/2005					
Duplicate:	DUP-03	05-MW01-S					
PARAMETERS	RESULT mg/Kg	QUAL	RESULT mg/Kg	QUAL	RPD	CRQL/MDL	NOTES
Chloroethane	0.63	J	0.62	J	NC	0.46	2, IN
1,1-Dichloroethene	180		190		-5.4	0.19	1, IN
Methylene Chloride	1.2		1.1		NC	0.42	2, IN
trans-1,2-dichloroethene	0.89	J	0.93	J	-4.4	0.1	1, IN
1,1-Dichloroethane	480		500		-4.1	0.17	1, IN
cis-1,2-dichloroethene	270		270		0.0	0.09	1, IN
Chloroform	0.33	J	0.33	J	NC	0.16	2, IN
1,1,1-Trichloroethane	930		960		-3.2	0.16	1, IN
Methylcyclohexane	2.3		2		14.0	0.14	1, IN
Benzene	8.5		8.8		-3.5	0.15	1, IN
1,2-Dichloroethane	4.1		4.1		0.0	0.13	1, IN
Trichloroethene	470		490		-4.2	0.12	1, IN
1,1,2-Trichloroethane	23		22		4.4	0.11	1, IN
Tetrachloroethene	50		49	J	2.0	0.12	1, IN
1,4-Dichlorobenzene	7.6		8.2		-7.6	0.12	1, IN
1,2-Dichlorobenzene	1.7		1.8		-5.7	0.08	1, IN
1,4-Dioxane	13		12		8.0	2.1	1, IN

NOTES

1 - When both results are > or = 5xCRQL/MDL, the acceptance limit is the relative percent difference must be < or = 30% for aqueous and air samples and must be < 50% for solid samples.

2 - When at least one of the results is < 5x CRQL/MDL, the acceptance limit is the difference between the results must be < or = CRQL/MDL for aqueous and air samples and < or = 2xCRQL/MDL for solid samples.

Q - The qualifier is entered to indicate if the analyte was not detected or qualitatively questionable in the sample.

U - the compound was not detected in the sample at or above the associated numerical value.

NC - The RPD was not calculated because one of the results was not detected; the acceptance limit used is the difference between the results must be < or = CRQL/MDL for aqueous and air samples and < or = 2xCRQL/MDL for solid samples.

J - The positive results should be considered estimated.

B - The result should be considered non-detected or qualitatively questionable due to blank contamination.

IN - The results are acceptable.

COMMENTS

No qualifications due to field duplicate precision.

MF 9/26/05